



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/523,107	02/03/2005	Yutaka Inoue	1254-0268PUS1	8412
2292 7590 10/10/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER A, MINH D	
			ART UNIT 2821	PAPER NUMBER
			NOTIFICATION DATE 10/10/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

<p align="center">Office Action Summary</p>	<p>Application No.</p> <p>10/523,107</p>	<p>Applicant(s)</p> <p>INOUE ET AL.</p>	
	<p>Examiner</p> <p>Minh D. A</p>	<p>Art Unit</p> <p>2821</p>	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 9/14/07.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 87-95 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 87-89 AND 93-95 is/are rejected.
- 7) ☒ Claim(s) 90-92 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>See Continuation Sheet</u> . | 6) <input type="checkbox"/> Other: _____ |

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date
:8/23/07,6/1/07,4/23/07,7/13/05,2/3/05,3/2/06.

DETAILED ACTION

1. This is a response to the Applicants' filing on 2/3/05. In virtue of this filing, claims 87-95 are currently presented in the instant application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification Accepted

3. The specification submitted on 2/3/05 is accepted.

Drawings Accepted

4. The drawings submitted on 2/3/05 are accepted.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 87-89 and 93-95 are rejected under 35 U.S.C. 102(b) as being anticipated by Honbo et al (U.S. Patent No. 6,087,757).

Regarding claim 87, Honbo discloses a driving circuit of piezoelectric transformers comprising: a long tubular fluorescent tube (11); and a pair of inverter transformers (12 and 14) for converting input voltages into high voltages and supplying high voltages having opposite phases to the ends of the fluorescent tube (11),

Art Unit: 2821

wherein each of the pair of inverter transformers (11) is positioned near the ends of the fluorescent tube for supplying the high voltages to the fluorescent tube. See figures 2-5, col.6, lines 17-67 to col.8, lines 1-35.

Regarding claim 88, Honbo discloses a driving circuit of piezoelectric transformers comprising a long tubular fluorescent tube (11); a pair of inverter transformers(12 and 14) for converting input voltages into high voltages and supplying high voltages having opposite phases to the ends of the fluorescent tube (11), wherein one of the pair of inverter transformers(12) is positioned near one end of the fluorescent tube, and the other inverter transformer(14) is disposed near the other end of the fluorescent tube(11). See figures 2-5, col.6, lines 17-67 to col.8, lines 1-35.

Regarding claim 89, Honbo discloses, wherein each of the pair of inverter transformers is provided in each of a pair of inverter circuits. See figures 2-5.

Regarding claim 93, Honbo discloses wherein the backlight apparatus according to claim 87 or 88 and a liquid crystal panel. Figures 1-5.

Regarding claim 94, Honbo discloses, a driving circuit of piezoelectric transformers comprising an inverter circuit used in a pair for driving a long fluorescent tube provided in a backlight apparatus, wherein, when a pair of the inverter circuits are used for driving the fluorescent tube, one of the pair is positioned near one end of the fluorescent tube and the other is disposed near the other end of the fluorescent tube. See figures 2-5, col.6, lines 17-67 to col.8, lines 1-35.

Regarding claim 95, Honbo discloses, wherein a long fluorescent tube, the apparatus comprising a pair of the inverter circuits of claim 94 for driving the fluorescent

Art Unit: 2821

tube, wherein each of the pair of inverter circuits is disposed near the ends of the fluorescent tube for supplying voltages to the ends of the fluorescent tube.

Allowable Subject Matter

7. Claims 90-92 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest that, a plurality of the fluorescent tubes; and a plurality of the pair of inverter circuits, wherein the plurality of the fluorescent tubes are disposed in parallel to one another so that the longitudinal directions thereof are substantially oriented to the same direction, and wherein at least a pair of inverter circuits, which are positioned on the same-end side of the plurality of the fluorescent tubes disposed in parallel such that the inverter circuits are adjacent to each other in the direction in which the plurality of the fluorescent tubes are disposed, the inverter circuits being connected in a synchronized manner recited in dependent claim 90.

Prior art fails to disclose or fairly suggest that, a plurality of the fluorescent tubes, wherein the plurality of the fluorescent tubes are disposed in parallel to one another so that the longitudinal directions thereof are substantially oriented to the same direction, the apparatus further comprising a plurality of the pair of inverter transformers for supplying high voltages having opposite phases to the ends of each of the plurality of the fluorescent tubes recited in dependent claim 91.

Art Unit: 2821

Prior art fails to disclose or fairly suggest that Prior art fails to disclose or fairly suggest that, a plurality of the fluorescent tubes, wherein the plurality of the fluorescent tubes are disposed in parallel to one another so that the longitudinal directions thereof are substantially the same, wherein the pair of inverter transformers each have a plurality of secondary windings for outputting high voltages, and wherein voltages from the plurality of secondary windings of one of the pair of inverter transformers are supplied to the same ends of adjacent fluorescent tubes of the plurality of the fluorescent tubes recited in dependent claim 92.

Citation of relevant prior art

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Suzuki (U.S. Patent No. 6,686,704) discloses a lamp lighting apparatus and projector using the same.

Prior art Nakatsuka et al (U.S. Patent No. 6,566,821) discloses a drive device and drive method for a cold cathode fluorescent lamp.

Prior art Nakanishi et al. (U.S. Patent No. 6,407,480) discloses a circuit for driving piezoelectric transformer.

Inquiry

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Dieu A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 AM-2: 45 PM).

Art Unit: 2821


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Owens Douglas W can be reached on (571) 272-1662. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Minh A

Art Unit 2821

Date 9/19/07


SHIH-CHAO CHEN
PRIMARY EXAMINER